

**WHAT IS CLAIMED IS:**

1. A method for inhibiting the spread and/or reducing the risk of infection of a virus comprising contacting a virus with an inhibiting effective amount of a cathelicidin functional fragment.
2. The method of claim 1, wherein the cathelicidin functional fragment comprises a peptide that is 16-36 amino acids in length; and contains the sequence  $\text{NH}_2\text{-X}_1\text{X}_2\text{X}_3\text{X}_4\text{X}_5\text{X}_6\text{IKX}_7\text{FX}_8\text{X}_9\text{X}_{10}\text{LX}_{11}\text{P-COOH}$  (SEQ ID NO:1), wherein  $\text{X}_1$ ,  $\text{X}_2$ , and  $\text{X}_6$  are individually K or R; wherein  $\text{X}_3$  is I or K; wherein  $\text{X}_4$  is V or G; wherein  $\text{X}_5$  is Q or R; wherein  $\text{X}_7$ ,  $\text{X}_9$ ,  $\text{X}_{10}$ , and  $\text{X}_{11}$  are each individually any amino acid; wherein  $\text{X}_8$  is L or F and wherein the polypeptide comprises antimicrobial and/or antiviral activity.
3. The method of claim 2, wherein the peptide is about 16 to 20 amino acids in length.
4. The method of claim 3, wherein the peptide comprises a sequence selected from the group consisting of:
  - (a)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVP-COOH}$  (SEQ ID NO:13);
  - (b)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVPR-COOH}$  (SEQ ID NO:14);
  - (c)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVPRT-COOH}$  (SEQ ID NO:15);
  - (d)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVP RTE-COOH}$  (SEQ ID NO:16); and
  - (e)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVPRTES-COOH}$  (SEQ ID NO:17).
5. The method of claim 3, wherein the polypeptide is about 26 to 30 amino acids in length.
6. The method of claim 5, wherein the peptide comprises a sequence selected from the group consisting of:
  - (a)  $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVP-COOH}$  (SEQ ID NO:18);
  - (b)  $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH}$  (SEQ ID NO:19);
  - (c)  $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH}$  (SEQ ID NO:20);

(d)  $\text{NH}_2$ -KSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:21); and

(e)  $\text{NH}_2$ -KSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:22).

7. The method of claim 2, wherein the peptide is about 27 to 31 amino acids in length.

8. The method of claim 7, wherein the peptide comprises a sequence selected from the group consisting of:

(a)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:23);

(b)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:24);

(c)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP RT-COOH (SEQ ID NO:25);

(d)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:26);

(e)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:27).

9. The method of claim 2, wherein the peptide is 36 amino acids in length.

10. The method of claim 9, wherein the peptide consists of the sequence  $\text{NH}_2$ -LG DFFRKSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:28).

11. The method of claim 1, wherein the virus is selected from a pox virus, a herpes virus, vaccinia virus, and pappiloma virus.

12. The method of claim 1, wherein the contacting is *in vivo*.

13. The method of claim 12, wherein the contacting *in vivo* is by topical administration.

14. A method of treating atopic dermatitis comprising contacting a subject having or suspected of having atopic dermatitis with an inhibiting effective amount of a cathelicidin functional fragment.

15. The method of claim 14, wherein the cathelicidin functional fragment comprises a peptide that is 16-36 amino acids in length; and contains the sequence NH<sub>2</sub>-X<sub>1</sub>X<sub>2</sub>X<sub>3</sub>X<sub>4</sub>X<sub>5</sub>X<sub>6</sub>IKX<sub>7</sub>FX<sub>8</sub>X<sub>9</sub>X<sub>10</sub>LX<sub>11</sub>P-COOH (SEQ ID NO:1), wherein X<sub>1</sub>, X<sub>2</sub>, and X<sub>6</sub> are individually K or R; wherein X<sub>3</sub> is I or K; wherein X<sub>4</sub> is V or G; wherein X<sub>5</sub> is Q or R; wherein X<sub>7</sub>, X<sub>9</sub>, X<sub>10</sub>, and X<sub>11</sub> are each individually any amino acid; wherein X<sub>8</sub> is L or F and wherein the polypeptide comprises antimicrobial and/or antiviral activity.

16. The method of claim 15, wherein the peptide is about 16 to 20 amino acids in length.

17. The method of claim 16, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH<sub>2</sub>-KRIVQRIKDFLRNLVP-COOH (SEQ ID NO:13);
- (b) NH<sub>2</sub>-KRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:14);
- (c) NH<sub>2</sub>-KRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:15);
- (d) NH<sub>2</sub>-KRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:16); and
- (e) NH<sub>2</sub>-KRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:17).

18. The method of claim 15, wherein the polypeptide is about 26 to 30 amino acids in length.

19. The method of claim 18, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:18);
- (b) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:19);
- (c) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:20);
- (d) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:21); and

(e)  $\text{NH}_2$ -KSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:22).

20. The method of claim 15, wherein the peptide is about 27 to 31 amino acids in length.

21. The method of claim 20, wherein the peptide comprises a sequence selected from the group consisting of:

(a)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:23);  
(b)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:24);

(c)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:25);

(d)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:26);

(e)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:27).

22. The method of claim 15, wherein the peptide is 36 amino acids in length.

23. The method of claim 22, wherein the peptide consists of the sequence  $\text{NH}_2$ -LGDFFRKSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:28).

24. The method of claim 14, wherein the virus is selected from a pox virus, a herpes virus, vaccinia virus, and pappiloma virus.

25. The method of claim 14, wherein the contacting is in vivo.

26. The method of claim 25, wherein the contacting in vivo is by topical administration.